Owner's Manual

HP-A3

32bit DAC

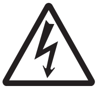


CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER - SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

"WARNING"

"TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE."

Safety instructions

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15) Excessive sound pressure from earphones and headphones can cause hearing loss.

Table of contents

Introduction

Thank you very much for purchasing the Fostex HP-A3 32-bit DA converter.
To ensure the best performance, read this manual thoroughly before using the unit. Keep this manual handy for future reference.

Overview

The Fostex HP-A3 is the high performance 32-bit DA converter with a high quality headphone amplifier.
The HP-A3 receives a digital audio signal from a USB-connected computer or a digital audio device connected by an optical cable and convert it to an analog signal, which is fed from the analog line output connectors as well as the headphones output connectors.

Supplied accessories

The following are supplied with the HP-A3.
- USB cable x 1
- Rubber feet x 4
- Owner's manual (this manual)

After purchasing the HP-A3, check all accessories are included in the package. The four rubber feet should be placed on the bottom panel yourself.

About power supply

The HP-A3 runs on USB bus power. Therefore when you use the HP-A3, regardless of the input source, it must be USB-connected to a computer that is turned on.

FCC (U.S.A.) & ICES-003 (Canada) Information

1. IMPORTANT NOTICE
This product, when installed as indicated in the instructions contained in this manual, meets FCC and ICES-003 requirements. Changes or modifications not expressly approved by Fostex Company for compliance could void the user's authority to operate the equipment. **DO NOT MODIFY THIS PRODUCT.**

2. IMPORTANT
In order to comply with FCC and ICES-003 requirements, use high quality shielded cables for connection to accessories and / or another products. If any cables are supplied with this product, they MUST be used. Follow all installation instructions. Failure to do so could void your FCC / ICES-003 authorization to use this product in the USA / Canada.

3. NOTE
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet different from that to which the receiver is connected.

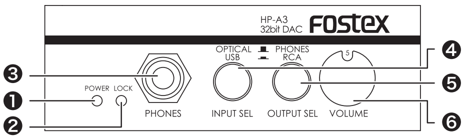
- Consult the dealer or an experienced radio/TV technician for help.

4. Compliance with Part 15 of FCC Rules and Canadian ICES-003.
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that many cause undesired operation.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Names and functions

Front panel



❶ [POWER] indicator

This indicator is illuminated when the unit is USB-connected to a computer and the computer is supplying the power to the unit via the [USB] connector.

❷ [LOCK] indicator

While the [INPUT SEL] switch is set to “USB”, this indicator is illuminated when the HP-A3 is USB-connected to a computer and recognized as an digital audio device by the computer.
While the [INPUT SEL] switch is set to “OPTICAL”, this indicator is illuminated when the HP-A3 is receiving the S/PDIF signal from a digital audio device that is connected to the [DIGITAL INPUT] connector.

<Note>:Even though the [LOCK] indicator is illuminated while the [INPUT SEL] switch is set to “USB”, if the audio output device of the computer is set to any device other than the HP-A3, the HP-A3 does not receive an audio signal.

❸ [PHONES] connector (1/4” stereo phone jack)

This connector is used to connect to stereo headphones. It is active when the [OUTPUT SEL] switch on the front panel is set to the up (“PHONES”) position.

❹ [INPUT SEL] switch

Switches the digital input source between the [USB] and [DIGITAL INPUT] connectors.

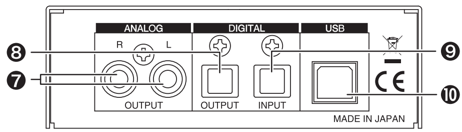
❺ [OUTPUT SEL] switch

Switches the analog output destination between the [PHONES] and [ANALOG OUTPUT] connectors.

❻ [VOLUME] control

Adjusts the analog output level of [PHONES] and [ANALOG OUTPUT] connectors.

Rear panel



❼ [ANALOG OUTPUT] (L and R) connectors (RCA pin jacks)

These connectors output an analog audio signal after the D/A converter They are active when the [OUTPUT SEL] switch on the front panel is set to the down (“RCA”) position. Generally, They are used to connect to an audio amplifier, etc.

❽ [DIGITAL OUTPUT] connector (optical)

This connector directly outputs a digital audio signal being received by the unit (via the [USB] or [DIGITAL INPUT] connector) in S/PDIF format. It is used to connect to a digital audio device.

❾ [DIGITAL INPUT] connector (optical)

This connector receives an S/PDIF digital audio signal. It is active when the [INPUT SEL] switch on the front panel is set to the up (“OPTICAL”) position. It is used to connect to a digital audio playback device such as a CD player.

❿ [USB] connector

This connector is used to connect to a computer using the supplied USB cable.

<Memo>
- Via USB, the HP-A3 not only receives a digital audio signal but also gets power (USB bus power) from a computer. Therefore, always make USB connection to your computer and turn it on when you use the HP-A3.
- To get stable power supply, connect the USB cable directly to a USB port of your computer, without using a USB hub.
- To receive a digital audio signal from your computer via USB, you should make audio output setting of the computer appropriately, as well as setting the [INPUT SEL] switch of the HP-A3 to the down (“USB”) position.

Computer connection and settings

When you use your computer as the input source of the HP-A3, you need to make sound output setting appropriately.

> <Memo>:
> When you use an external digital device as the input source, you do not need to make sound setting of your computer, however, USB connection is required to power the HP-A3.

Computer requirement

You can connect a computer that satisfies the following requirement.

- A USB 2 port is provided.
- OS: Windows XP or later, Mac OS X

Connection

Connect the HP-A3 and your computer using the supplied USB cable.
After making connection, the computer recognizes the HP-A3 and automatically adds it to the list of sound output devices.

> <Memo>:
> - The HP-A3 gets power (USB bus power) from a computer. Therefore, USB-connect the HP-A3 to your computer that is turned on whenever you use the HP-A3 regardless of the input source.
> - To get stable power supply, connect the USB cable directly to a USB port of your computer. The use of USB hubs is not recommended.

Basic computer setting

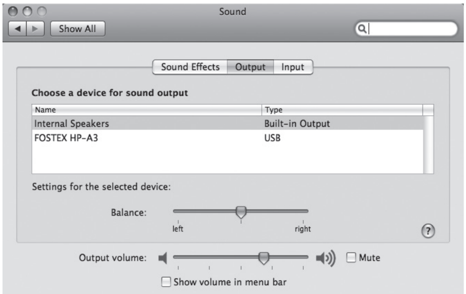
The following describes how to set the HP-A3 as the device for sound output of a computer for each OS.

• Mac OS

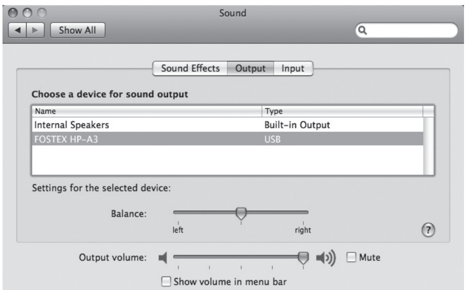
1) Select “System preferences” from the Apple drop-down menu.



2) Select “Sound” to open the “Sound” window and select “Output” tab at the top of the window.



3) Select “FOSTEX HP-A3” in the list box.



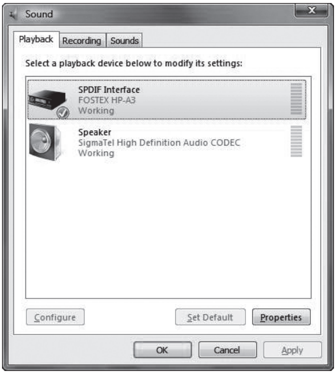
• Windows Vista

1) Select “Hardware and Sound” from the Control panel.

2) Select “Sound” to open the “Sound” window.

3) Select “Playback” tab.

4) Select “SPDIF interface FOSTEX HP-A3” and click the “Set Default” button, followed by the “OK” button.

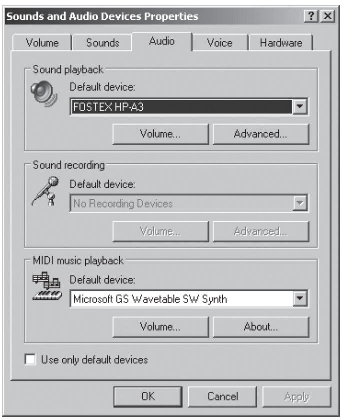


• Windows XP

1) Select “Sound and Audio Device Properties” from the Control panel.

2) Select “Audio” tab in the “Sound and Audio Device Properties” window.

3) Select “FOSTEX HP-A3” as the default device for playback and click the “OK” button.

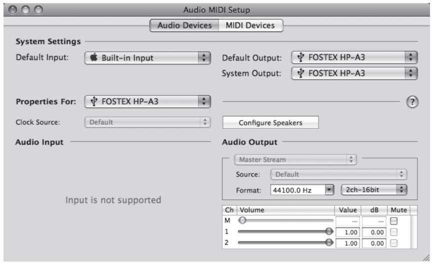


Detail settings

By making sound output settings on a computer appropriately, you may be able to monitor the sound better.
Depending on a computer OS, the setting window differs. The following briefly introduces the setting window for each OS. See the computer manual or help screen for details.

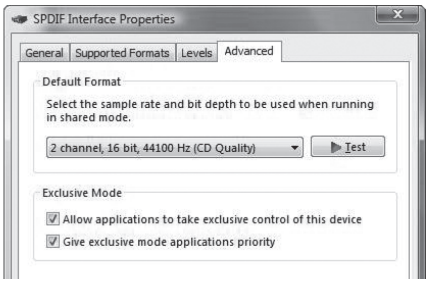
• Mac OS

The "Audio MIDI setting" utility in the Utility folder in the Application folder allows you to select the sampling rate, bit rate, levels of left and right channels, etc.



• Window Vista

Clicking the “Property” button on the “Sound” window opens the window where you can select the sampling rate, etc.

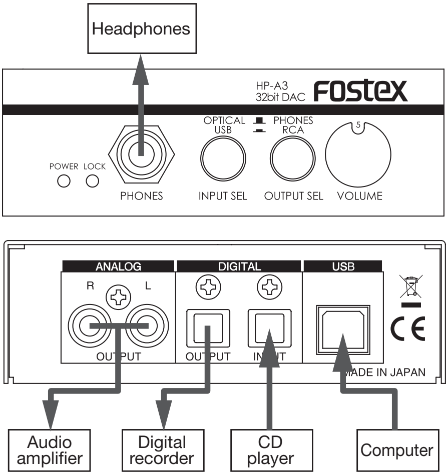


• Windows XP Clicking the “Advanced” button on the “Sound and Audio Device Properties” window opens the setting window. Note that, with Window XP, the sampling rate conforms to the setting on an software application.

Computer sound volume

By setting the sound volume at maximum, you can get the optimum sound quality.

Connection example



<Note>:The [DIGITAL OUTPUT] connector directly outputs the input digital signal. Therefore, the sampling rate of the external digital device connected to the [DIGITAL OUTPUT] connector must match the sampling rate of the input signal of the HP-A3.

HP-A3 settings

[INPUT SEL] switch setting

- To monitor a signal from your computer, set this switch to "USB".
- To monitor a signal from an external audio device, set this switch to "OPTICAL".

[OUTPUT SEL] switch setting

- To monitor a signal via headphones, set this switch to "PHONES".
- To monitor a signal via an amplifier/speaker system, set this switch to "RCA".

Volume setting

Use the [VOLUME] control to adjust the sound volume. The [VOLUME] control affects both the output levels of the [PHONES] and [ANALOG OUTPUT] connectors.

<Memo>:
To get the optimum sound quality, it is recommended to set the sound output volume of your computer to maximum and adjust the volume using the [VOLUME] control of the HP-A3.

Specifications

Inputs

- **USB connector**
  - Maximum bit rate/sampling frequency:
    24 bits/96 kHz
  - Interface: USB full-speed

- **DIGITAL INPUT connector**
  - Connector type: TOSLINK optical
  - Format: S/PDIF (32 kHz to 96 kHz)

Outputs

- **PHONES connector**
  - Connector type: 1/4-inch stereo jack
  - Maximum output: 100mW(32 ohms load)
    : 20mW(300 ohms load)
  - Applicable load impedance:
    16 ohms or more
  - THD: 0.04 % or less
    (at 1 kHz, 32 ohm load,100 mW output)
  - Frequency response: 20 Hz to 20 kHz,
    +/– 0.3 dB (at 32 ohm load, 100 mW output)

- **ANALOG OUTPUT (L, R) connectors**
  - Connector type: RCA pin jack
  - Nominal output level: -10 dBV
  - Applicable load impedance: 10 kohms
  - THD: 0.01 % or less (at 1 kHz)
  - Frequency response: 20 Hz to 20 kHz,
    +/– 0.3 dB (at nominal level)

- **DIGITAL OUTPUT connector**
  - Connector type: TOSLINK optical
  - Format: S/PDIF (32 kHz to 96 kHz)

General

- Supplied accessories: rubber feet (x 4), USB cable (x 1), Owner's manual (x 1)
- Power requirement: DC 5V (supplied from the USB port)
- Power consumption: 2.5 W
- External dimensions: 108 (W) x 36 (H, excluding rubber feet) x 140 (D, including protrusions) mm
- Weight: 450 g

* Specifications and appearance are subject to change without notice for product improvement.

Declaration of EC Directive

This equipment is compatible with the EMC Directive (2004/108/EC) - Directive on approximation of member nation's ordinance concerning the electromagnetic compatibility and with the Low Voltage Directive (73/23/EEC) - Directive on approximation of member nation's ordinance concerning electric equipment designed to be used within the specified voltage range.

The Affect of Immunity on This Equipment
The affect of the European Specification EN61000-6-1 (coexistence of electromagnetic waves - common immunity specification) on this equipment are as shown below.
In the electrical fast transient/burst requirements, surge, conducted disturbances by radio-frequency fields, power frequency magnetic field, radiate electromagnetic field requirements and static electricity discharging environment, this could be affected by generation of noise in some cases.

FOSTEX DISTRIBUTORS LIST IN EUROPE

* Including non-EU countries (as of October 2009)

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